

5 DUAL PROCESS SEMICONDUCTOR HETEROSTRUCTURES & METHODS

ABSTRACT OF THE DISCLOSURE

10 A method for forming an epitaxial layer involves depositing a buffer
layer on a substrate by a first deposition process, followed by
deposition of an epitaxial layer by a second deposition process. By
using such a dual process, the first and second deposition processes
can be optimized, with respect to performance, growth rate, and cost,
for different materials of each layer. A semiconductor
15 heterostructure prepared by a dual deposition process includes a
buffer layer formed on a substrate by MOCVD, and an epitaxial layer
formed on the buffer layer, the epitaxial layer deposited by hydride
vapor-phase deposition.